INCH-POUND

MIL-DTL-55302/54C
10 December 2003
SUPERSEDING
MIL-C-55302/54B
19 January 1981

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES: PLUG, STRAIGHT-THRU, HERMAPHRODITIC CONTACT FORPRINTED WIRING BOARDS (.100 SPACING)

This specification is approved for used by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-55302.

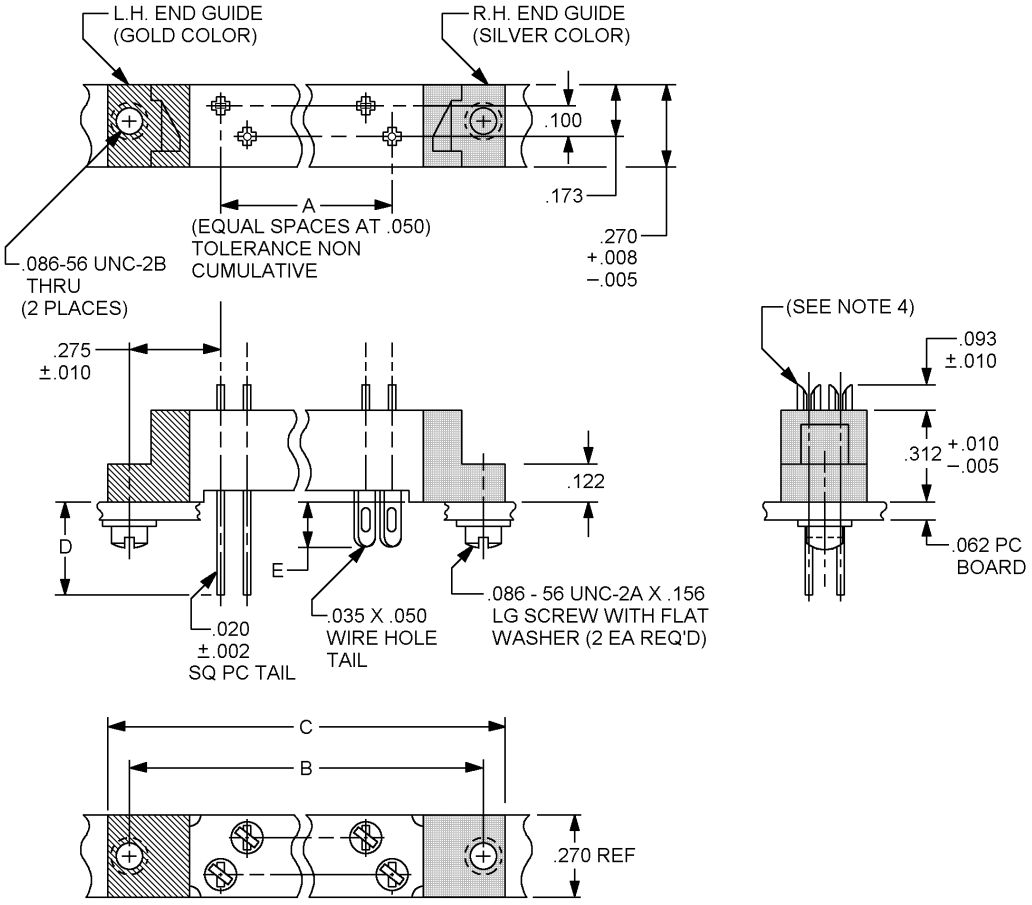
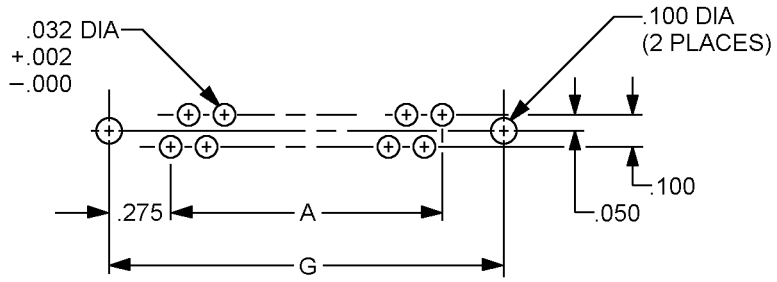
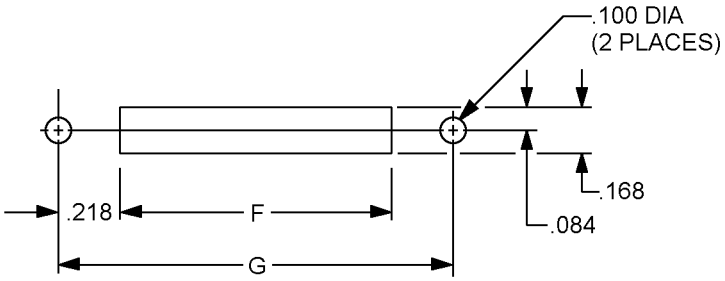


FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing.



RECOMMENDED HOLE PATTERN FOR
PLUG USING P C TAIL CONTACTS



RECOMMENDED CUTOUT FOR PLUG USING WIRE
HOLE CONTACTS, IN NON-CONDUCTIVE CHASSSIS

Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	0.05	.086	2.18	.270	6.86	1.750	44.45	3.200	81.28
.005	0.13	.093	2.36	.275	6.98	1.864	47.35	3.450	84.84
.008	0.20	.100	2.54	.312	7.92	2.000	50.80	3.550	90.17
.010	0.25	.122	3.10	.453	11.51	2.050	52.07	3.664	93.07
.015	0.38	.156	3.96	.531	13.49	2.140	54.36	4.100	104.14
.020	0.51	.157	3.99	.850	21.59	2.164	54.97	4.240	107.70
.032	0.81	.168	4.27	.964	24.49	2.300	58.42		
.035	0.89	.173	4.39	1.400	35.56	2.440	61.98		
.050	1.27	.218	5.54	1.450	36.83	2.600	66.04		
.062	1.57	.219	5.56	1.540	39.12	2.650	67.31		
.084	2.13	.250	6.35	1.564	39.73	2.740	69.50		

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ±.005 (0.13 mm).
4. With connectors fully engaged the mating contacts shall have a minimum overlap distance of .062 inches (1.57 mm). As a minimum the contacts shall exhibit a wiping action through this distance.

FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing - Continued.

TABLE I. Dash number and dimension.

Dash 1/ number	Number of contacts	Dimensions (inches)						
		A	B ±.010	C Reference	D ±.015	E ±.015	F	G
01	18	.850	1.400	1.540		.157	.964	1.400
02					.250	---	---	
03					.281	---	---	
04					.562	---	---	
05					.126	---	---	
06					.484	---	---	
07	30	1.450	2.000	2.140		.157	1.564	2.000
08					.250	---	---	
09					.281	---	---	
10					.562	---	---	
11					.126	---	---	
12					.484	---	---	
13	36	1.750	2.300	2.440		.157	1.864	2.300
14					.250	---	---	
15					.281	---	---	
16					.562	---	---	
17					.126	---	---	
18					.484	---	---	
19	42	2.050	2.600	2.740		.157	2.164	2.600
20					.250	---	---	
21					.281	---	---	
22					.562	---	---	
23					.126	---	---	
24					.484	---	---	
25	54	2.650	3.200	3.340		.157	2.764	3.200
26					.250	---	---	
27					.281	---	---	
28					.562	---	---	
29					.126	---	---	
30					.484	---	---	
31	72	3.550	4.100	4.240		.157	3.664	4.100
32					.250	---	---	
33					.281	---	---	
34					.562	---	---	
35					.126	---	---	
36					.484	---	---	

1/ See requirements of complete Part or Identifying Number (PIN) when polarization is required.

REQUIREMENTS:

Dimensions and configuration: See figure 1 and table I.

Material and finish:

Contact: .020 inch thick phosphor bronze in accordance with ASTM B139, UNS C51000. Gold plate in accordance with ASTM B488, type II, grade D class 1.27, over nickel plating in accordance with SAE-AMS-QQ-N-290, class 2, 30 to 150 microinches in the engagement area for a length of .120 inch minimum (see figure 1). The remainder of contact shall be tin lead .0001 microinch minimum in accordance with SAE-AMS-P-81728 over nickel plating in accordance with SAE-AMS-QQ-P-290, class 2, 30 to 150 microinches.

Insulator: ASTM D5948, type SDG-F.

End guides: Left hand, sintered brass 90/10, clear chromate in accordance with MIL-C-5541, class 1A (gold color). Right hand, sintered brass 90/10, nickel plate 300 microinches in accordance with MIL-F-14072 (silver color).

Polarizing pin: Aluminum alloy 2011-T3 with clear chromate, in accordance with MIL-C-5541, class 1A.

Mounting screw: Brass, cadmium plated, gold chromate finish.

Flat washer: Stainless steel.

Contact identification: Numerical sequence starting with the closest contact adjacent to the left hand end guide (gold color) shall be contact number 1; contact number 2 would be the next offset contact, etc.

Mating and unmating: The maximum insertion force, in pounds, shall not exceed a value equal to .5 times the number of contacts, and the withdrawal force, in pounds, shall be a minimum of .11 times the number of contacts and shall not exceed the measured insertion force.

Individual contact separation force:

Unplated contacts: One-ounce minimum when tested in production with gage shown on MIL-DTL-55302/97.

Plated contacts: One-ounce minimum.

Contact resistance: The average contact resistance of all pairs measured shall not exceed 20 miiliohms.

Low level circuit: The low-level circuit resistance shall not exceed 20 milliohms.

Dielectric withstanding voltage:

Sea level: 1,000 volts rms, 60 cycle, ac.

High altitude (70,000 feet): 300 volts rms, 60 cycles ac.

Current rating, maximum: 5 amperes.

Polarizing pin: When required, one of the following codes shall be added to the dash number:

“P”: specifying location by contact number where polarizing pin shall be inserted; for example, M55302/54-01P17 (polarizing pin inserted in place of contact number 17).

“H”: specifying location by contact number where contact shall be omitted for mating; for example, M55302/54-01H17(polarizing hole has contact number 17 omitted).

Mating plug: Shall conform to MIL-DTL-55302/52, /99.

PIN: M55302/54- (dash number from table I).

Patent number 2,750,572: The Government has a royalty free license under this patent for the benefit of manufacturers of the item either for the Government or for use in equipment to be delivered to the Government.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. In addition to MIL-DTL-55302, this document references the following:
MIL-C-5541
MIL-DTL-55302/52
MIL-DTL-55302/97
MIL-DTL-55302/99
MIL-F-14072
ASTM B139
ASTM B488
ASTM D5948
SAE-AMS-QQ-N-290
SAE-AMS-QQ-P-81728

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-4413-003

Review activities:
Army - AR, AT, AV, MI
Navy - AS, MC, OS, SH
Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at www.dodssp.daps.mil.